MIT's Oldest and Largest Newspaper

thetech.com

The Tech
Established 1881

Volume 138, Number 19

Tuesday, September 18, 2018

WEATHER, p. 2

THU: 77°F | 62°F
Heavy Rain

FRI: 66°F | 58°F
Mostly Cloudy

SAT: 67°F | 60°F
Mostly Sunny

Logs accept first female member

Several women auditioned for MIT's oldest a cappella group in the past, but none were successful

By Rujul Gandhi

The Logarhythms, also known the Logs, are MIT's oldest a cappella group. Since the group was founded in 1949, it has been all-male. In 2013, the members updated the constitution to state that the Logs are an a cappella group that sings male parts but does not discriminate between auditionees on the basis of gender. Logs historian Mark Mockett '19, said in an interview with *The Tech* that while there have been a few female auditionees since 2013, Brodsky is the first one to be accepted.

Brodsky, who is trained in opera and was part of a band in high school, said in an interview with *The Tech* that she had not done a cappella before but was inspired to audition for the Logs when she saw their performance during CPW.

The Logs have found that the addition of a female singer has not altered their music or team dynamic. "Quinn's lower range is exceptionally strong," said their music director, Jonathan Wang '21, in an interview with *The Tech*. Mockett added that Brodsky's energy is a good fit for the group. According to Brodsky, she has always felt like just another member of the group in the rehearsals so far.

However, Brodsky said she is a little concerned about people outside the Logarhythms knowing her only for being the female Log.

"You could say something special about every single one of the people who got in this year which is just as unique," she said.

Coincidentally, The Crimson recently reported that the formerly all-male Harvard a cappella group the Din and Tonics admitted its first female member this fall, following the Harvard policy of phasing out gender-based groups on campus.

Currently, the Logarhythms have no plans of becoming a fully co-ed group, but the members say it is possible and dependent on the future members of the Logs.

MAHI SHAFIULLAH—THE TECH

A student walks past chalk art in the Stata Center that says, "The Chancellor & COD are RAPIST ENABLERS" Sept. 17.

IN SHORT

Fall Career Fair will take place 10 a.m. Friday on the first and second floors of the Johnson Athletics Center and in Rockwell Cage. Friday will be a holiday for students, with no classes held.

UA committee applications are due tomorrow at 11:59 p.m.

The UROP direct funding deadline is 5 p.m. Thursday.

Interested in **joining *The Tech***? Stop by for dinner Sunday at 6 p.m. or email *join@tech.mit.edu.*

Send news and tips to *news@tech.mit.edu.*

ASE pass rates improve in almost all subjects this year

240 more students took ASEs this year than last

By Susanna Chen

769 students took Advanced Standing Exams this year, resulting in an overall pass rate of 64.1 percent.

ASE participation has steadily increased in recent years, from 443 students in 2015, to 509 and 529 students in 2016 and 2017, respectively. This year saw even more growth, with 240 more students than last year taking one or more ASE(s).

Pass rates also improved nearly across the board.

The 7.01x (Introductory Biology) ASE had one of the most significant increases: 65.6 percent of the 151 test takers passed this year, up from 38.8 percent in 2017.

There was also a considerable improvement for the physics exams. Forty-eight percent of students who took the 8.01 (Physics I) ASE and 61.8 percent who took the

ASE, Page 12

Neural network visualization proj. wins HackMIT

Hackers given "passports" to encourage tech talk attendance

By Billy Woltz

A neural network visualization project, Ennui, won first place at HackMIT 2018 this past weekend. About 1,200 students from MIT and around the world coded software projects during the 24-hour hackathon held at Johnson Athletic Center.

The runner-up project was YeetView, a street view for the visually impaired. ViGiCam, an object-tracking video surveillance system, won the third place overall prize.

The projects were judged Sunday morning and afternoon, which was followed by a Project Expo event during which participants got to see each others' projects. In total, there were 36 prizes awarded.

This year, in addition to the main competition, there was also a scavenger hunt of sorts. Each hacker was given a small "passport" which they could get stamped at various talks and how-to demos, such as "Rigetti: How to Program a Quantum Computer" and "Quora: Intro to NLP Techniques." Those who collected eight or more stamps won a small prize.

Overall, hackers seemed to enjoy the hackathon. "[I liked] the large, dedicated chunk of time to explore something new without worrying about all the other stuff on my plate," Nate Foss '20 told *The Tech* in an interview. "My least favorite part is that it's only 24 hours, which isn't usually enough time to build something of high quality."

The YeetView project included aspects that rely on voice-recognition, and because the hackers behind the project are Australian, their accents made it more difficult to test and demo. "Our Australian accent isn't very good on the web speech API," Mitch McDermott, one of the hackers who coded YeetView, said in an interview with *The Tech*.

The keynote speakers for HackMIT 2018 were Massimo Banzi, the co-founder of Arduino, an open-source hardware and software company, and Ruchi Sanghvi, the founder of South Park Commons, a learning community for people in tech based in San Francisco, and the first female engineer at Face-

HackMIT, Page 2

KEVIN LY

David Wartinger is awarded the Ig Nobel Prize in medicine for discovering that certain roller coasters can help hasten the passage of kidney stones Sept. 13 at Harvard's Sanders Theatre.

IG NOBEL PRIZES

The nutritional benefits of cannibalism? **NEWS, p. 2**

ANIMAL-SHAPED GOBLETS

Drink history from a cup. **ARTS, p. 7**

CRICKET CHAMPIONS

MIT beats BU in season opener. **SPORTS, p. 5**

HACKMIT PHOTOS

Sleeping students, keynote speakers, and Johnson Ice Rink filled with coders. **PHOTO, p. 6**

I'M A FROSH

Should I go to Career Fair? Auntie has the answers. **CAMPUS LIFE, p. 4**

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WEATHER

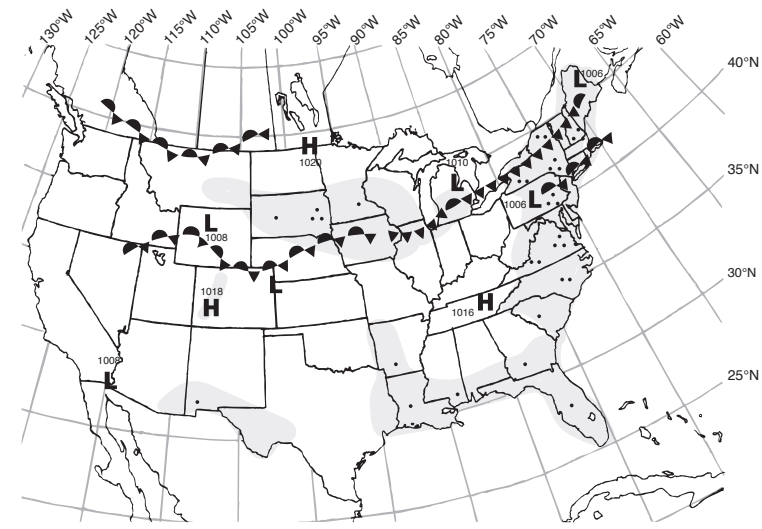
Florence's moisture targets the Northeast

By Jordan Benjamin
STAFF METEOROLOGIST

After wreaking havoc across the Carolinas and killing over 20, Florence is finally moving on. In addition to strong winds, storm surge, and tornadoes, the storm dumped over 30 inches of rain across Eastern North Carolina, leading to widespread record flooding. This moisture and heavy rain has now moved into the Northeast. In advance of the heavy rains the National Weather Service has issued a Flash Flood Watch for today that includes the Boston area. Widespread rain totals of 1–3 inches can be expected, with localized amounts as high as 6 inches. The rain will be short-lived, however; skies by tomorrow will be only mostly cloudy, and by Thursday once again sunny. For the long-range forecast, seasonable weather will again make a strong return, with high temperatures at best in the mid 70s °F as we edge towards the first day of fall.

Extended Forecast

Today: Rain, heavy at times. High around 77°F (25°C). SW winds at 5–10 mph.
Tonight: Rain ending. Low around 62°F (17°C). N winds at 5–10 mph.
Tomorrow: Mostly cloudy. High around 66 °F (19°C). Low around 58°F (14°C). NE winds at 5-10 mph.
Saturday: Mostly sunny. High around 67°F (20°C). Low around 60°F (16°C).
Sunday: Partly cloudy. High around 77°F (25°C).



Situation for Noon Eastern Time, Tuesday, September 18, 2018

Weather Systems	Weather Fronts	Precipitation Symbols			Other Symbols
			Snow	Rain	
H High Pressure	Trough	Showers	✻ ▽	• ▽	Fog
L Low Pressure	Warm Front	Light	✻	•	Thunderstorm
§ Hurricane	Cold Front	Moderate	✻✻	••	Haze
	Stationary Front	Heavy	⁂	∴	Compiled by MIT Meteorology Staff and *The Tech*

Ig Nobel laureate's research on cure for kidney stones started as bar bet

Winning research also includes studies on self-colonoscopy and the nutritional benefits of cannibalism

By Aditi Saayujya

The 28th annual Ig Nobel Prize ceremony, a parody of the better-known Nobel Prize ceremony, took place at Sanders Theatre at Harvard Sept. 13. Ten Ig Nobel prizes were awarded in fields ranging from Literature to Medicine, to scientists who conducted improbable research that "makes people laugh, and then think," according to its website.

Winning topics included studies on self-colonoscopy in the sitting position, the nutritional benefits of human cannibalism, and the use of roller coaster rides to aid in the passage of kidney stones. These projects were explained in more detail at the Ig Informal Lectures held at MIT Sept. 15.

True to form, the award ceremony began with a paper airplane deluge, in which the audience threw their planes onto the stage "in the interests of safety and recycling," according to the distributed program.

Outside in the foyer, under the glare of "human spotlights," or torch holders covered in silver body paint, the lab coat-clad Boston Squeezebox Ensemble regaled attendees on their accordions with musical themes from "The Broken Heart Opera," written by founder Marc Abrahams in accordance with this year's theme, "The Heart." Acts from this comic opera, sung and performed by cardiologists (and a few Nobel Laureates), were interspersed throughout the rest of the ceremony.

The prize ceremony itself featured plenty of humorous moments, too, such as when Medical Education laureate Dr. Akira Horiuchi's attempt to demonstrate his award-winning colonoscopy technique was abruptly called off by flag-waving attorney William J. Maloney, designated as the evening's "Not Safe For Work" indicator.

The Reproductive Medicine awardees, Drs. John Barry, Bruce Blank, and Michel Boileau, also kept the audience in stitches as they presented their paper, "Nocturnal Penile Tumescence Monitoring With Stamps," with a slideshow featuring increasingly suggestive stamps of horned mammals, volcanoes, and rockets, to name a few. Abrahams concluded his speech by warning the audience that "philately is not permitted in Sanders Theatre."

Literature laureate Dr. Alethea Blackler, who had demonstrated that product users seldom read instruction manuals, received her award in a dress printed with remote control buttons and emblazoned with the letters 'RTFM' in red. When we asked about the significance of her dress, Blackler (who admitted to not reading instruction manuals herself) said they stood for "Read The Field Manual," and remarked that "sometimes, the F is replaced by another word."

Jokes aside, there was also reason, logic, and scientific merit to be found in the research. Nutrition laureate Dr. James Cole, who calculated the energy efficiency of a human-cannibalism diet, said in an interview with *The Tech* that the Ig Nobels "frame the eye-catching, interesting part [of my work], which is what makes people gasp in horror or maybe in laughter. But behind a lot of the science, we're trying to tackle a bigger question." For Cole, the bigger question that motivated his research was his desire to understand why human ancestors persistently engaged in cannibalism throughout their evolutionary history.

Meanwhile, Professor David Wartinger's Medicine Prize-winning research "basically started as a bar bet," he said in an interview with *The Tech*. "We did this because we were curious. We had no research grants, we paid for it ourselves."

It all began when a patient at his urology clinic reported passing out kidney stones after riding on the Big Thunder Mountain roller coaster at Disney World. Wartinger then built a silicone model of the patient's kidney, loaded it with his own urine and the patient's kidney stones, and rode the roller coaster over 360 times. "We found out that at least for this particular patient, with this particular kidney design, it really did dislodge stones."

Wartinger believes his research is especially applicable towards young women intending to conceive, since passing kidney stones during pregnancy can trigger premature labour and miscarriages. Astronauts are also likely to benefit, as bone demineralization during long duration space travel often results in stone formation. Wartinger has approached NASA with hopes of continuing his study.

"So the idea is: get rid of the stones when they're little. You don't need an operation, or a trip to the emergency room. I just hope people can put it to use," he concluded.

And indeed, they have. Following the Ig Informal Lectures, Chi-Han Chang, a graduate student from Harvard, approached Wartinger to thank him. He told *The Tech* about how a cousin afflicted with kidney stones had benefited from the research. "She went to an amusement park in Taiwan and there was a free-fall roller coaster," Chang said. "She rode it and after that, she went back to the hospital and the kidney stone was gone. So it actually worked."

Webcasts of both Thursday's Ig Nobel Prize ceremony and Saturday's Ig Informal Lectures are available on the Improbable Research YouTube channel.

Kevin Ly contributed reporting.

Frosh quad in Baker hosts 11 hackers

HackMIT, from Page 1

book. Both spoke at the opening ceremony.

MIT students were guaranteed admission, while students from other universities had to apply online. According to a HackMIT organizer, HackMIT received 4,991 applications this year. Hackers received food, swag, and overnight hosting.

Four first-year MIT students living in Baker hosted 11 hackers. One of the hosts, Ryan Wilson '22, didn't mind the crowd. "I'm not sure if we could fit 12 hackers in our room, but I am sure that we could fit 24 or even 28," Wilson jokingly told *The Tech* in an interview.

Be a PENguin
write for us
e-mail join@tech.mit.edu

Solution to Hacc

from page 8

6	5	1	2	4	3
4	3	5	6	2	1
3	2	4	5	1	6
2	1	3	4	6	5
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Solution to Summit

from page 8

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C	L	A	U	S	■	R	A	I	N	■	T	H	O	U
H	E	I	G	H	T	O	F	F	A	S	H	I	O	N
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S	T	S	■	S	U	E	S	■	S	E	N	D	E	R
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Solution to Saturday

from page 10

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C	A	P	T	A	I	N	O	B	V	I	O	U	S	■
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D	E	E	P	E	S	T	■	S	I	L	E	N	T	K

Meet your
fellow tech staff.
(aka, your new 3 a.m.
pset support group)

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Solution to Hosed

from page 8

1	2	5	8	6	4	7	9	3
7	8	9	1	3	5	4	6	2
4	6	3	9	2	7	5	1	8
8	3	4	5	7	6	1	2	9
6	9	7	2	1	8	3	4	5
2	5	1	4	9	3	8	7	6
5	7	6	3	4	2	9	8	1
3	1	2	7	8	9	6	5	4
9	4	8	6	5	1	2	3	7

Solution to Plague

from page 9

9	2	4	1	5	6	7	3	8
2	4	6	3	7	8	9	5	1
4	6	8	5	9	1	2	7	3
7	9	2	8	3	4	5	1	6
3	5	7	4	8	9	1	6	2
5	7	9	6	1	2	3	8	4
8	1	3	9	4	5	6	2	7
6	8	1	7	2	3	4	9	5
1	3	5	2	6	7	8	4	9

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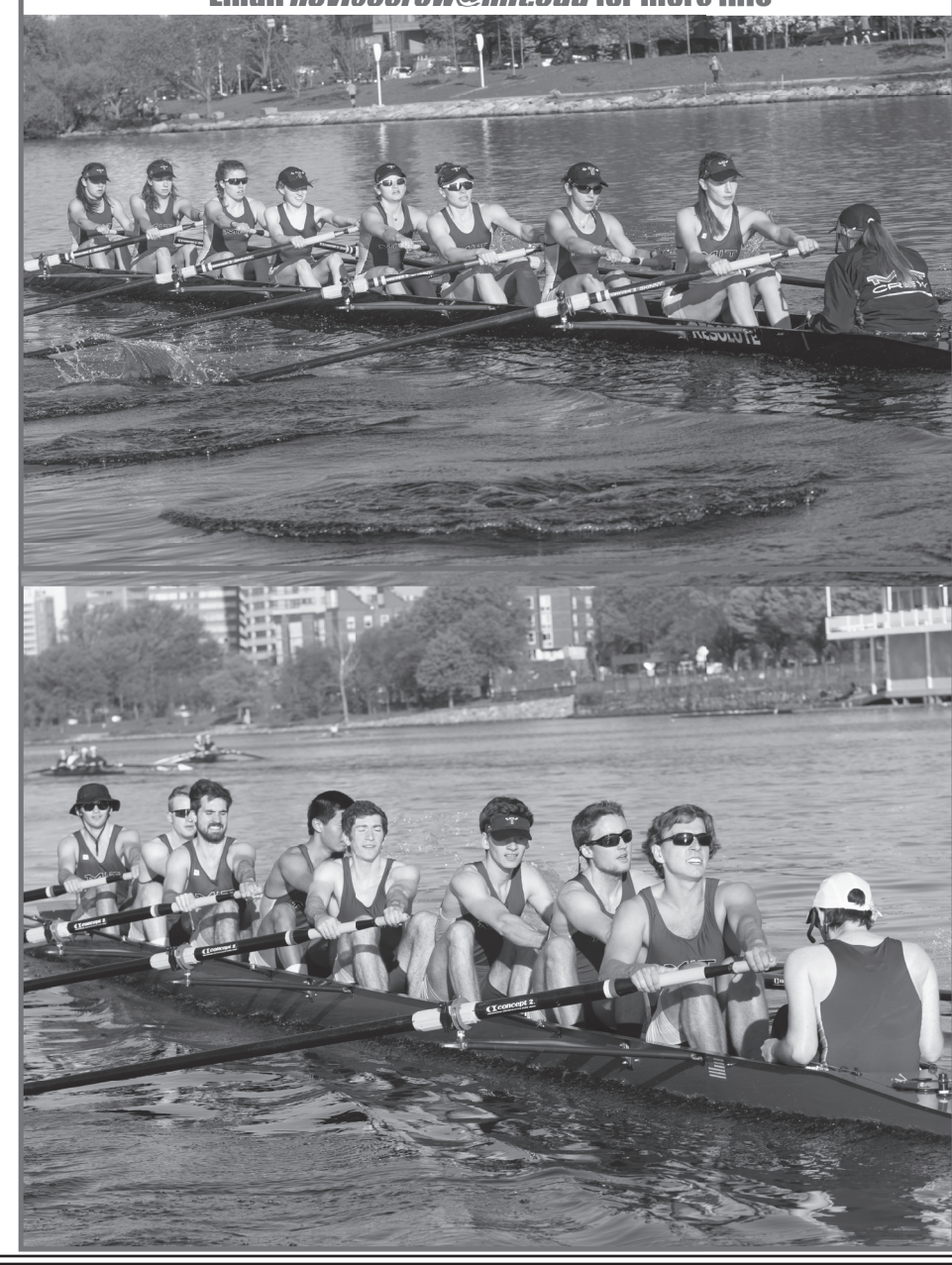

My children have never been to Hawaii and we haven't had a family vacation in a few years.

This is their Christmas gift surprise!

Memories last forever
Saving for them shouldn't

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CAMPUS LIFE CAMPUS LIFE CAMPUS LIFE

ADVICE

September problems

Auntie Matter on when it's okay to break the November rule and what frosh should do at Career Fair

By Auntie Matter

If you have questions for Auntie Matter, please submit them at tinyurl.com/AskAuntieMatter. Questions have been edited for length, clarity, and content.

Dear Auntie Matter,

I'm a freshman and this junior and I have really hit it off. He is an exchange student, and he will only be here through the end of the semester. He doesn't have a girlfriend, and it seems pretty clear that he is interested in me. Does the November Rule count in this situation?

— Frosh, Fond of Foreigner

Dear Fond,

Auntie is going to contradict all the typical advice here and say that you should break the November rule. Auntie's loyal fans will know that she is an advocate for seizing opportunities when they arise, especially in dating.

However, there is a caveat. Consider the purpose of the November rule: as many of Auntie's readers understand, the purpose is for frosh to develop their own social circles without the strong pull of an upperclassman with their already-established social circles. Particularly, the November rule guards against the problem of a frosh wholesale adopting the upperclassman's friends as their friends. Should the relationship end, they would subsequently lose both their romantic partner and all of their friends in the process.

Therefore, you, dear writer, should not pursue this relationship to the detriment of forming friendships. Consider gossiping about your hot foreign boyfriend with your floormates, your teammates, or your fellow student group members. Seek romantic advice. Make it a team sport. Or, if that's not your style, cultivate an air of mystery that will fascinate your friends for years to come.

The fact that he is an exchange student is in your favor here, too. You don't say how long he has been at MIT, but Auntie assumes it is significantly less than two years. This means he has had a similar amount of time to make friends as you have, and so the friendship playing field is more level between the two of you.

The main reason Auntie suggests you pursue this man, however, is that she hopes you will fall passionately in love. To be frank, this scenario just sounds ripe with possibility for longing and risk and novelty. Please have a sizzling hot affair with a foreign man. Auntie begs you. (And feel free to write in with details.)

Dear Auntie Matter,

I'm a freshman. Doing career fair seems really scary and hard. How important is it for me to go?

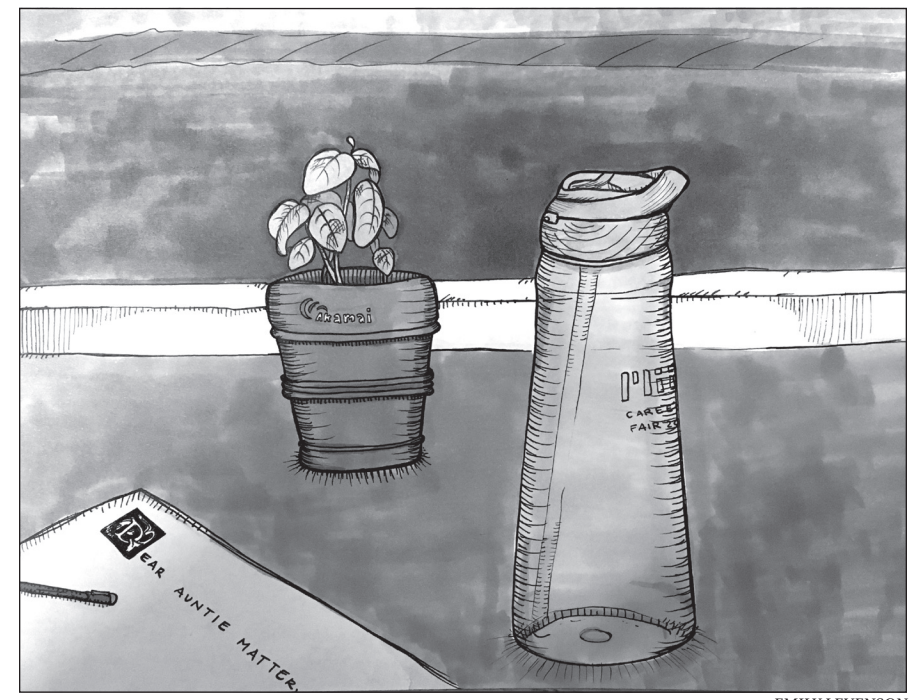
— Are the T-shirts Worth the Turmoil?

Dear T-shirts,

Auntie will tell you something that is similar to the typical advice freshmen get on this matter ("just go and take free stuff"), but not quite the same. She believes you should go but not for the free things. You should go to see what it is like and practice for future years when there will be more at stake (the fact that you are so unlikely to get a job at this career fair means that the opportunity cost if you totally screw it up is very low). Furthermore, you should go precisely because you are afraid. It's very likely that going to career fair will do you no harm and, rather, will be useful. It is better for you to get in the habit of doing things that frighten you but that you think you ought to, so in the future you are tougher. Go for the character building, but stay for the practice.

A few things to keep in mind for next Friday:

1. There is a special time this year at career fair for the freshmen from 9:30–10 a.m.



EMILY LEVENSON

   Companies are not encouraged to give you things but instead to talk to you, when the upperclassmen are not around vying for their time. Take advantage of this to really speak to recruiters, practicing speaking in a professional setting and getting a feel for the social norms of networking events.
2. Some will tell you to go, looking like a slob, and just collect free things. You may be able to infer Auntie's feelings on this advice. While there is nothing wrong with dressing casually in everyday life, you perform like you rehearse. Do not waste this opportunity to learn how to present yourself professionally.
3. Furthermore, do not just grab things and go. Again, you should take this opportunity to practice some networking skills that you might not already have. If you take 15 T-shirts but somehow manage to avoid making eye contact with anyone, you have not practiced your networking skills.
4. Finally, on the matter of taking free things: Auntie suggests you focus on the nice ones. Shop around. See what's the best on offer. Auntie herself loves a free, high quality water bottle. Or, recently, Akamai, a biotechnology firm, supplied little pots of basil you could grow yourself. One is sprouting at this instant in Auntie's window. Fresh basil will give your salads and pizza just that little extra kick, so if you have a window with natural sunlight, do take the plunge.

This is Massachusetts
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MIT beats BU in cricket semester opener by 17 runs

By Keshav Gupta

BU captain Shrey Rajgaria won the toss and elected to bowl first in overcast, swinging conditions. MIT opener Anirudh Nambiar G began the proceedings with a crisp on drive to get four runs. Other opener Vaikkunth Mugunthan G also drove a couple of deliveries through the packed off-side field before the opening partnership was broken. Usman Ayyaz '17 knicked a feather edge to the keeper. Keshav Gupta '21 and Vaikkunth Mugunthan G then had a brief partnership of 32 runs before Mugunthan mistimed one straight to midwicket. Gupta fell soon to an outswinger that took a thick edge and was pouched safely by Caen Healy, BU's wicketkeeper. Jehangir Amjad G and Nanda Ponnambalam G looked set to produce a big target when Ponnambalam top-edged a delivery trying to sweep. Amjad and Manish Chaubey brought up some very handy runs that gave MIT's score some substance. Murthy Arelekatti G and Sumit Agarwal G then exploited the field that was now brought in and gave MIT runs that ultimately proved to be the difference between the two sides.

Going in to the innings break, MIT felt 159 was at least 15–20 runs below par, given that in the last meeting between the two sides at that venue, MIT scored 264 in 20 overs. MIT's strategy for scoring was to restrict the flow of runs to mount pressure on the batting side and force them to make errors. In the opening spell, Ponnambalam kept a tight line and length, being very miserly with runs. Ayyaz bagged three crucial top-order wickets in his opening spell to cripple BU's scoring. Vedant Agrawal, BU's last recognized batsman, then scored some important runs while Amjad knocked down stumps time after time on the other end. His resistance finally ended when he failed to keep out a yorker from Gupta. Manraj Gill G and Chaubey then cleaned up the tail to give MIT a victory in their semester opener. It was a wonderful team effort in the batting, bowling and fielding departments from MIT!

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HACK MIT

HackMIT 2018, MIT's largest undergraduate hackathon, took place this past weekend in Johnson Ice Rink and Kresge Auditorium. Students from around the world worked on a variety of software and hardware projects, with top prizes going to a neural network visualization project and a street view interface for the visually impaired.

SHINJINI GHOSH

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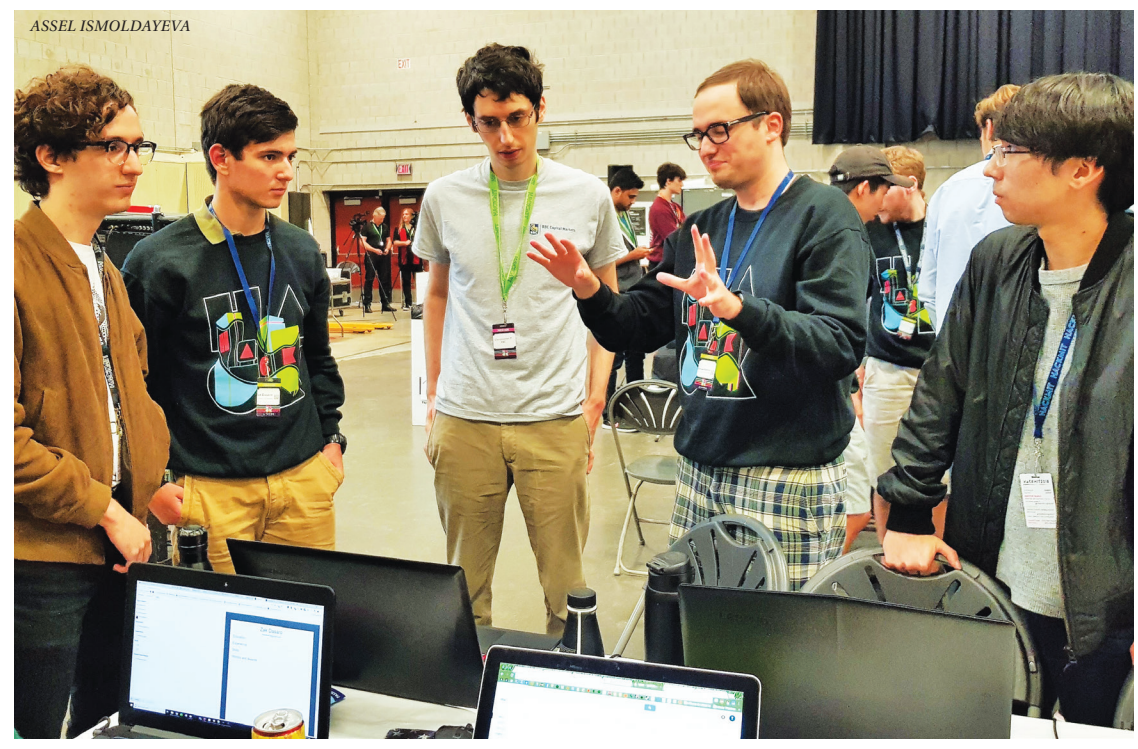
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ART EXHIBIT REVIEW

Fine wine in a faience lion

Harvard Art Museum presents exhibition on animal-shaped drinking vessels

Animal-Shaped Vessels from the Ancient World: Feasting with Gods, Heroes, and Kings

Curated by Susanne Ebbinghaus

On display until Jan. 6, 2019

Harvard Art Museum

32 Quincy St., Cambridge

By Alexandra Sourakov
STAFF WRITER

Crack open any run-of-the-mill epic, like *The Aeneid* or *The Odyssey*, and you'll notice that when it comes time for the heroes to take their sup, it is rarely a modest repast of bread, cheese, and olives eaten on the go, but invariably a feast fit for kings with concomitant revelling that would make Dionysus smile in a self-congratulatory manner. Apart from stimulating the gastric juices, examining the feasting tradition can reveal much about the cultural practices and beliefs of the people partaking.

For time periods from which extant written records are few, the drinking and serving vessels themselves can serve in an illuminatory capacity. Assembling an exhibition dedicated to such artifacts, as Susanne Ebbinghaus has done at the Harvard Art Museum, provides an unparalleled opportunity for cross-cultural and cross-temporal analysis of the tradition of animal-shaped vessels that persisted over three millennia, from Greece to China. It was fascinating to be able to compare the various depictions of the ram, for example, across different cultures, to see the different materials artisans used to make rhytons, and to observe the wild and domestic animals favored by different cultures, even while the time period and material remained the same.

There is a wealth of information embodied in each vessel, from the delicately wrought silver wild cat partially gilded with gold (Parthian), to the brilliant blue faience lion from the Achaemenid period (Egyptian), to the swarthy griffin rendered in terracotta (Greek). Their shapes give insight into how their contents would have been imbibed; their subject matters suggest who might have owned them or when and why they would have been used; and their styles reflect the contemporary standards of craftsmanship.

Taken as a whole, we get a glimpse into the values, beliefs, and traditions of ancient civilizations as well as how ideas spread through an increasingly globalized trade network. For example, one can see tangible evidence of the migration of the rhyton from the Near East to China in the form of a duck-shaped rhyton, which the Chinese crafted in ceramic and placed in Tang dynasty tombs. In this way, they adopted the vessel as their own, transforming what previously might have been a bull or a griffin into an animal symbolic in their own culture and assigning the vessel a spiritual significance.

The experience of examining these objects is deeply enriched by the detailed and insightful descriptions that accompany each vessel, providing context for its origin and purpose as well as the symbolic and mythological subtext of the animal(s) and scenes depicted. And as surely as "all art is at once surface and symbol," you can bet that when there are animal-shaped somethings involved, symbolism is going to be important. Take, for example, the *Rhyton with the forepart of a zebu bull*. On its own, it is a beautiful piece of art, but the item's accompanying commentary provides further insight into the "multiethnic and cosmopolitan character of the Parthian Empire" that is reflected in the coupling of the bull, the traditional Iranian symbol of kingship, with traditionally Greek decorative elements and style. In addition to the printed captions, there are excellent digital features online with further commentary.

If you're intrigued by an exhibit which includes a drinking vessel that transfigures the partaker into a braying donkey, Professor Kimberly Patton will be giving a lecture at the museum on the context and meanings of the objects in the exhibition on Tuesday, Oct. 2.

KRASIMIR GEORGIEV; ©NATIONAL ARCHAEOLOGICAL INSTITUTE AT THE BULGARIAN ACADEMY OF SCIENCES, SOFIA.
Deer head rhyton depicting griffins attacking a bull, probably Black Sea area, c. 350 BCE.

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FUNFUNFUNF

Plague

Solution, page 3

5–		18+			25+			
	24×			56×		7–	35×	
384×				36×				9+
24+			2÷	3		5×		
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		3		60×			18×	7
48×			14×			4		5
30×				25+				9

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–9. Follow the mathematical operations for each box.

Bunny Boi by Max Evans

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5.111 only ASE with lower pass rate

ASE, from Page 1

8.02 (Physics II) ASE passed, compared to the corresponding 2017 pass rates of 28.1 and 58.4 percent.

The 18.03 (Differential Equations) and 18.06 (Linear Algebra) ASEs both had 100 percent pass rates, with all 33 and 14 of the students who took those exams succeeding, respectively. In 2017, by comparison, the pass rates were 83.8 percent for 18.03 and 56 percent for 18.06.

The 18.02 (Calculus II) ASE also experienced a generous increase, from 63 percent in 2017 to 71.6 percent this year.

The 18.01 (Calculus I) exam, on the other hand, had the lowest pass rate among the math exams at 39.4 percent, comparable to last year's rate of 39.2 percent.

The only ASE that had a lower pass rate this year than last year was the 5.111 (Introductory Chemistry), which has historically been one of the most difficult ASEs. Only 37 of the 145 participants passed this year; this pass rate of 25.5 percent is down from 31 percent in 2017.

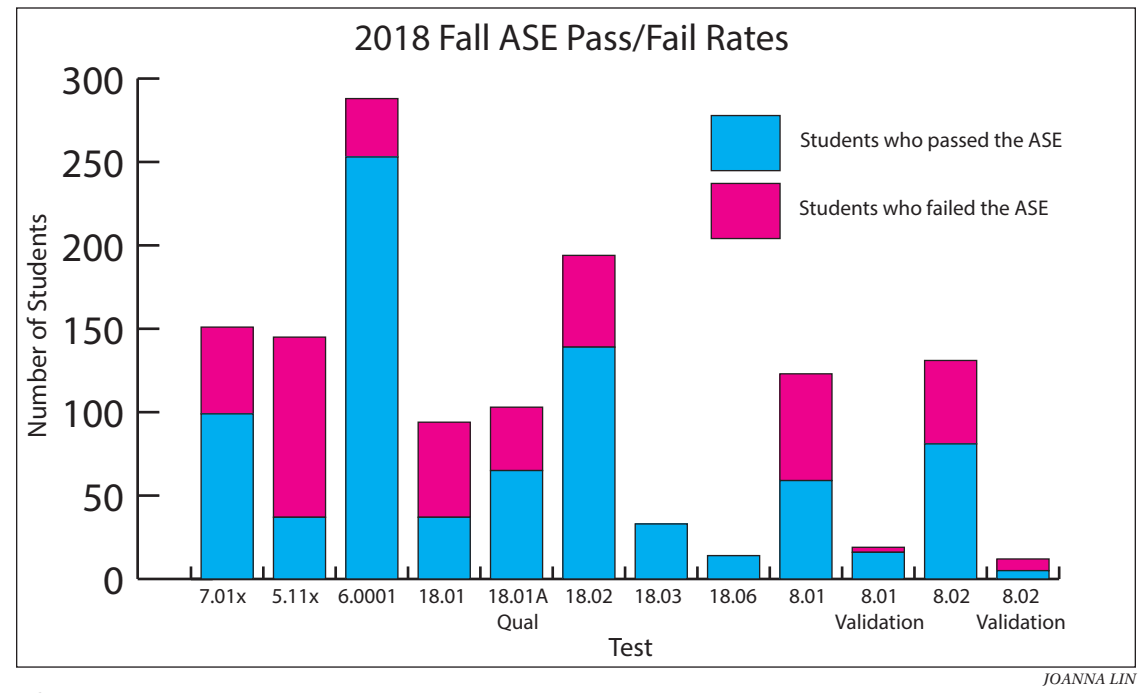
ASE data for this and past years was provided to *The Tech* by Elizabeth Young, associate dean of advising and new student programming.

"The new P/NR policy has not [had an] affect on the ASEs," Young wrote in an email to *The Tech*. "[P]articipation is based on preparation of the student."

In fact, the new P/NR policy has deterred some students from becoming heavily invested in the ASEs. Carine You '22 said in an interview with *The Tech*, "I took fewer ASEs because I knew that I would be able to postpone some of my GIRs without losing the freedom of P/NR." You ultimately decided to take only the 18.02 Multivariable Calculus exam.

The prospect of a more comprehensive education has also dissuaded some students from participation in the ASEs.

"I didn't feel confident enough in my physics, chemistry, or biology background from high school and thought the MIT classes would give me a better or deeper understanding of these subjects." Juliana Green '22 said in an email to *The Tech*. "College is not a race, it's about learning and I am excited to learn from the best in the world!"



JOANNA LIN

ASE pass rates increased nearly across the board this year.

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